

REMARKS

This paper is presented in response to the non-final official action dated December 30, 2008, wherein:

- (a) claims 1, 2, 4, 6-14, and 16-31 were pending;
- (b) claims 1, 2, 6-10, 12, 14, and 17-19 were rejected as obvious over:
 - (i) Hilton et al. U.S. Patent No. 4,140,801 ("Hilton") in view of
 - (ii) Sokolsky et al. U.S. Patent No. 1,676,166 ("Sokolsky"),
 - (iii) Champagnat U.S. Patent No. 3,193,390 ("Champagnat"),
 - (iv) Pinnegar U.S. Patent No. 3,425,839 ("Pinnegar"),
 - (v) Young et al. U.S. Patent No. 3,886,046 ("Young"),
 - (vi) Green et al. U.S. Patent No. 3,891,771 ("Green"),
 - (vii) Christ et al. U.S. Patent No. 4,242,361 ("Christ"),
 - (viii) Hopkins U.S. Patent No. 4,341,802 ("Hopkins"),
 - (ix) Annuk et al. U.S. Patent No. 5,316,776 ("Annuk"),
 - (x) Howe et al. "Yeast Media, Solutions, and Stocks" (1991) ("Howe"),
 - (xi) *Catalog of Bacteria and Bacteriophages* (1992) ("Catalog"), and
 - (xii) Lund "Detection of Microorganisms in Food" (2000) ("Lund");
- (c) claim 4 was rejected as obvious over the references of (b), further in view of:
 - (i) "Yeast Fermentation" (1999), and
 - (ii) "How to Restart a Stuck Fermentation" (2007);
- (d) claims 4, 11, 12, 16, and 20-25 were rejected as obvious over the references of (b), further in view of:
 - (i) Baldwin U.S. Patent No. 2,744,017 ("Baldwin"),
 - (ii) Bechtle U.S. Patent No. 3,818,109 ("Bechtle"),
 - (iii) Hagiwara U.S. Patent No. 4,298,620 ("Hagiwara"),
 - (iv) "Fermented Fruits and Vegetables, A Global Perspective" (1998),
 - (v) "Lactic Acid Bacteria" (2001),
 - (vi) "Microbiology and Bacteriology" (2006), and
 - (vii) The applicant's alleged admissions of prior art;
- (e) claim 13 was rejected as obvious over the references of (b), further in view of:
 - (i) Goering et al. U.S. Patent No. 4,428,967 ("Baldwin");
- (f) claims 26-31 were rejected as obvious over the references of (b), further in view of:
 - (i) Amrein et al., "Potential of Acrylamide Formation, Sugars, and Free Asparagine in Potatoes: A Comparison of Cultivars and

Farming Systems," *J. Agric. Food Chem.*, vol. 51, p. 5556-5560 (published on web July 30, 2003) ("Amrein");

(g) claims 1, 2, 4, 6-14, and 16-29 were rejected as lacking written description; and

(h) claim 4 was rejected as indefinite.

This amendment is accompanied by a Rule 131 Declaration of Aziz C. Awad (the "Awad Declaration") providing facts relevant to the conception and reduction to practice of the claimed process.

Reconsideration and withdrawal of the rejections are respectfully requested in view of the foregoing amendments and following remarks.

I. Brief Summary of the Amendments to the Claims

Claims 1, 20, 28, and 29 have been amended to recite that the aqueous medium contains the uncooked processed food in step (a). Support for the amendment may be found, for example, at ¶¶ 14-¶¶ 19 of the application specification and the corresponding Figures 1-6 (illustrating processes with the addition of uncooked processed foods to an aqueous medium).

Claims 1, 20, 28, and 29 also have been amended to clarify that agitation of the aqueous medium occurs while fermenting the uncooked processed food in the aqueous medium. This feature is shown, for example, in Figures 1 and 4-6 which clarify that fermentation of the aqueous medium occurs while the aqueous medium is being mixed.

Claim 4 has been amended to clarify that the aqueous medium has a pH between about 4 and 5 at the end of the fermentation. Accordingly, the applicant requests reconsideration and withdrawal of the indefiniteness rejection.

Claim 6 has been amended to recite that the uncooked processed food comprises potatoes and that the uncooked processed food is fried without drying the uncooked processed food after step (b) and before step (e). Support for the amendment may generally be found in the application examples and figures, for example in Figure 1 (outlining a process of fermenting and frying potato slices without an intervening drying step) when compared with Figures 4-6 (outlining a process fermenting, drying, and baking other starchy foods).

Claim 7 has been amended to recite that the uncooked processed food is selected from the group consisting of cereal meals and corn meals, and that the uncooked processed food is dried after step (b) and before the cooking in step (e). Support for the amendment may generally be found in the application examples and figures, for example in Figures 5 and 6 (outlining processes of fermenting, drying, and baking cereal and corn meals).

Claims 1, 20, 28, and 29 have been amended to address the written description rejection. Specifically, claims 1, 20, 28, and 29 have been amended to recite a neutralizing agent in the aqueous medium, with claims 1 and 20 further specifying a food-grade acid or an alkali metal hydroxide, support for which may be found, for example, at ¶ 2 of the application specification. Claim 1 has been amended further to recite "an aqueous" medium" instead of "a fluid aqueous medium." Claims 1 and 20 have been amended further to delete the "outlet strainer" portion of washing step (d). In view of the foregoing, the applicant requests reconsideration and withdrawal of the written description rejection.

New claims 32-34 recite specific levels of acrylamide reduction in the fermented and cooked food, support for which may be found, for example, in the application examples (presenting 18 examples with acrylamide reduction values ranging from 51% to 81%).

By these amendments, there are 3 total (dependent) claims in excess of the highest number previously presented. Accordingly, the additional claims fee of \$78 under 37 CFR § 1.16(i) is enclosed. Additional fees may be charged to our deposit account 13-0610 under order number Awad-George 4.1-7.

II. Disclosure of the Applied References

The pending claims were variously rejected over Hilton in view of a variety of other references. The majority of the applied references were discussed in the previously filed "Amendment A," the discussion of which is incorporated by reference herein for brevity. The relevant disclosures of the newly cited references are addressed below.

A. Pinnegar U.S. Patent No. 3,425,839

Pinnegar is generally directed to a continuous beer-making process and is cited by the action for its disclosure related to fermentation vessels including a filter. Office Action, p. 5.

B. Young et al. U.S. Patent No. 3,886,046

Young is generally directed to a recycle fermentation process and is cited by the action for its disclosure related to fermentation medium recycling. Office Action, p. 5.

C. Hopkins U.S. Patent No. 4,341,802

Hopkins is generally directed to the production of proteins with reduced nucleic acids and is cited by the action for its disclosure related to fermentation medium recycling. Office Action, p. 5.

D. Goering et al. U.S. Patent No. 4,428,967

Goering is generally directed to processes for producing waxy barley products and is cited by the action for its disclosure related to yeast recycling. Office Action, p. 6.

E. Amrein et al., "Potential of Acrylamide Formation..."

Amrein relates to the analysis of different potato cultivars for glucose, fructose, sucrose, free asparagine, and free glutamine content. The potential of the potatoes for acrylamide formation was measured with a standardized heat treatment. Amrein, abstract.

III. The 35 USC § 103(a) Rejections Are Traversed

Claims 1, 2, 4, 6-14, and 16-31 were rejected as obvious over Hilton as the primary reference in view of various other supporting references. See Office Action, p. 5-22. While the applicant acknowledges that "reliance on a large number of references in a rejection does not, without more, weigh against the obviousness of the claimed invention," MPEP § 2145(V), the applicant submits that the excessive number of applied references in this case is indicative of the impermissible hindsight used as a basis for the obviousness rejections, in particular given the failure of the references to recognize the problem of acrylamide production. In any event, the applicant traverses the obviousness rejections for the specific reasons set forth below.

A. Claims 1, 20, 28, and 29 – Aqueous Medium

Claims 1, 20, 28, and 29 recite that the aqueous medium contains the uncooked processed food. Claims 1, 20, 28, and 29 further recite agitating the

aqueous medium while fermenting the uncooked processed food in the aqueous medium.

The action asserts that the aqueous medium limitation is satisfied by Hilton's disclosure of the addition of a minute amount of an aqueous yeast slurry to a large excess of mashed potatoes. Office Action, p. 17 (referring to Hilton's Example 1). The other applied references do not alter this aspect of Hilton.

As amended, the claims clarify that the aqueous medium contains the uncooked processed food. Thus, the addition of a small amount of an aqueous mixture to an uncooked processed food does not satisfy the claim limitation. Further, Hilton and the other applied references do not disclose, teach, or suggest agitation of the aqueous medium during fermentation. Thus, the applied references do not disclose, teach, or suggest all limitations of the independent claims, and there is no *prima facie* case of obviousness. *In re Fine*, 837 F.2d 1071, 1074 (Fed. Cir. 1988). The applicant submits that the pending claims are accordingly allowable over the applied references.

B. Claim 6 – Drying

Dependent claim 6 recites that (i) the uncooked processed food comprises potatoes, and (ii) step (e) comprises frying the uncooked processed food without drying the uncooked processed food after step (b) and before step (e).

In Hilton, fermented potato solids are dried prior to storage and/or subsequent frying. Hilton, 4:15-17 and 5:36-46. The other applied references do not alter this aspect of Hilton. Thus, the applied references do not disclose, teach, or suggest all limitations of claim 6, and there is no *prima facie* case of obviousness. *In re Fine*, 837 F.2d at 1074. The applicant submits that claim 6 is accordingly allowable over the applied references.

C. Claim 7 – Cereal and Corn Meal

Dependent claim 7 recites that the uncooked processed food is selected from the group consisting of cereal meals and corn meals.

Hilton is directed to potato products and does not disclose, teach, or suggest the recited cereal meals and corn meals. The other applied references do not alter this aspect of Hilton. Thus, the applied references do not disclose, teach, or suggest all limitations of claim 7, and there is no *prima facie* case of obviousness. *In re Fine*,

837 F.2d at 1074. The applicant submits that claim 7 is accordingly allowable over the applied references.

D. Claims 26-31 – Sugar Content

Claims 26-31 variously recite that the raw, uncooked processed food contains less than 0.1 wt.% of one or more sugars such as fructose, glucose, sucrose, maltose, and/or lactose.

The office action asserts that this low-sugar limitation is taught by Amrein in combination with Hilton and the other secondary references applied against the independent claims. Office Action, p. 8.

Amrein published on July 30, 2003 (on the web) and on August 27, 2003 (in *J. Agric. Food Chem*).

The rejection of claims 26-31 can be overcome with a declaration under 37 CFR § 1.131, because Amrein only potentially qualifies as reference under 35 USC § 102(a).¹ A Rule 131 declaration must establish possession of either the whole invention claimed or something falling within the claim (such as a species of a claimed genus), in the sense that the claim as a whole reads on it. MPEP § 715.02 (citing *In re Tanczyn*, 347 F.2d 830 (CCPA 1965)). An obviousness rejection based on a combination of references may be overcome by showing completion of the invention (e.g., by an actual reduction to practice and a showing of fitness for intended purpose) by the applicant prior to the effective date of any one of the applied references. MPEP § 715.02(I) and § 715.07(III).

Submitted herewith is a declaration under 37 CFR § 1.131 by Aziz Awad ("Awad Declaration"), inventor of the present application. The Awad Declaration demonstrates that at least one experimental trial falling within the process of claims 26-31 (i.e., an actual reduction to practice) had been completed prior to Amrein's effective date of July 30, 2003. The declaration indicates that experimental trials corresponding to Example 5 (Table 9, line 1 result relating to effect of pH) and Example 2 (Table 3, line 4 result relating to effect of bacterial concentration) were performed prior to Amrein's effective date. Awad Declaration, ¶ 6. The fried potato chip samples resulting from the experimental trials also were analyzed for acrylamide content prior to Amrein's effective date. *Id.* In particular, Exhibits B and C to the

¹ Based on the October 6, 2003 filing date of the present non-provisional application.

Awad Declaration demonstrate not only that all claimed process steps had been performed (i.e., the process must have been performed before the final fried potato chip sample could be analyzed by an outside laboratory for acrylamide content), but also that the inventor appreciated the fitness of the process for its intended purpose (i.e., because the laboratory analysis demonstrated a substantial reduction in acrylamide content between the control samples and the samples according to the claimed process). The declaration further indicates that the "Wisconsin 123" potatoes used in the application examples were known by the inventor to meet the compositional requirements of the raw, uncooked processed food recited in the claims. *Id.*, ¶ 5. In particular, Exhibit A to the Awad Declaration demonstrates that the "Wisconsin 123" potatoes contained <0.1 wt.% of fructose, glucose, sucrose, maltose, and lactose and contained 0.411 wt.% asparagine.


Thus, prior to Amrein's effective date of July 30, 2003, the inventor (1) had performed experimental trials meeting all limitations of the claimed process, (2) had demonstrated that the potatoes used to conduct the trials met compositional requirements of the recited food, and (3) appreciated that the claimed process worked for its intended purpose. This factual showing demonstrates an actual reduction to practice of the claimed process sufficient to antedate Amrein as a reference.

In view of the foregoing, the applicant submits that Amrein is not available as a reference against claims 26-31. Accordingly, the applicant requests reconsideration and withdrawal of the obviousness rejection of claims 26-31.

CONCLUSION

In view of the foregoing, entry of amendments to claims 1, 4, 6, 7, 20, 28, and 29, reconsideration and withdrawal of the rejections, and allowance of all pending claims are respectfully requested.

Respectfully,

A handwritten signature in cursive script, appearing to read "Ian C. McLeod", written over a horizontal line.

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